DAQC-1517-2000

MEMORANDUM

TO: Source File - **THATCHER COMPANY**

THROUGH: Jeff Dean, Environmental Programs Manager, Compliance Section

FROM: Rob Leishman, Environmental Scientist

DATE: September 25, 2000

SUBJECT: **THATCHER COMPANY**, B, Salt Lake County, 035-00119

19257 AIR

551 U1 1R

TYPE OF INSPECTION: Annual Inspection

DATE OF INSPECTION: September 11, 2000

MULTIPLE INSPECTION SOURCE: No

FFY QUARTER ASSIGNED: Fourth Quarter FFY 2000

SOURCE LOCATION: 1905 Fortune Road, Salt Lake City, Salt Lake County. Fortune Road can be accessed by taking California Ave (1300 South) west from Redwood about 1/4 mile and turning south.

SOURCE CONTACTS: Dale Hansen - Director of Technical Services
Curt Morgan - Vice President of Operations

OPERATING STATUS:

Much of the plant was not operating at the time of the inspection. However, many of the plants were in operation. The facilities operating were attached to the Chlorine Scrubber, HCL or Aqueous Ammonia Scrubber, Nitric Acid Scrubber, Paint Booth, and Bead Blaster. The primary SO2 scrubber was not operating at the time of the inspection.

PROCESS DESCRIPTION:

Thatcher Company is in business of production, processing , storing and re-packing of numerous liquid- and dry chemicals, and pharmaceuticals. The largest volume of material produced at this site is: sulfur dioxide in gaseous and liquid forms and as an intermediary for sulfur trioxide, sulfurous and sulfuric acids, sodium (bi)sulfate and other sulfur based compounds which are either sold as is, or used in some of the on-site processes.

The SO_2 "contact process" is as follows:

Elemental molten sulfur is received by rail in heated containers and transferred to heated storage tanks. The molten sulfur is then sprayed into a burner, thus producing hot sulfur gas at a concentration of approx. 18% SO_2. The sulfur dioxide gas stream is then converted to sulfur trioxide with the evolution of heat from the 280 degrees F of the molten sulfur to approx.450 degrees in the exothermic reaction. The SO_3 gas then passes to the first of two tower spray cooling system for temperature quenching and the addition of water, producing sulfuric acid. The second tower is in use to dissolve the gas from the stream and thereby producing sulfurous acid . The remaining combustion gases are passed through a sodium sulfite absorption tower for scrubbing to a 50 ppm max. SO_2 . The scrubbing liquor and neutralizer is a soda ash (sodium carbonate) solution.

The sulfur dioxide stream is then stripped from the sulfurous acid, cooled, and passed through a drying system

utilizing sulfuric acid to remove the water vapors and to further dry the SO_2. It is then compressed and liquefied for use in on site manufacturing or sold. Some of the liquid SO_2 is purchased elsewhere in bulk, delivered by rail and re-packed into smaller units for distribution and sold without any further processing. Sodium sulfite is manufactured along this circuit as a usable byproduct: It is generated by the blending of soda ash, SO_2 and water.

Nitric Acid is produced by the oxidation of ammonia by air or oxygen. This takes place in the glass reactor. Aqua Ammonia is the precursor for this material.

Calcium nitrate is produced by blending nitric acid with quicklime. Some of the quick lime, as calcium oxide, remains unreacted and is treated as waste. The dry quick lime is purchased elsewhere, but re-packed on site. This is mentioned here because the lime storing and processing has great potential for PM emissions and is controlled by a baghouse. In addition, NOx gasses are produced during the blending of the ingredients for calcium nitrate. reaction process.

Ferric Chloride is derived by the action of ferrous chloride from elemental iron, and chlorine gas. Remaining is an iron sludge as the waste product.

Three products are processed or manufactured in the chlorine area: Bleach. T-Chlor: a powdered chlorine product, and chlorine repacking. Bleach and chlorine are produced in the same manner: A 25% sodium hydroxide is mixed with water and sparged with chlorine, as CL_2. Regular salt is as sodium chloride remains unreacted and treated as waste.

In addition to the main manufacturing processes described above, numerous pharmaceutical products are manufactured or mixed by Thatcher Chemicals , none of which was formulated during the days of this inspection. These products are made in small batches, inconsequential to the overall emissions profile. Some of the raw materials involved in these formulations are stored or packed in containers served with baghouses because of their fine granular nature.

There are 18 various control systems installed, all listed on Appendix B of the Approval Order. They operate as follows:

The SO_2 production lines are serviced by a packed bed wet scrubber with additional monitoring requirements, such as in-stack SO_2 monitoring to establish emissions, continuous monitoring of the pH level in the soda ash scrubbing liquid. The effluent to the outside must measure below 50 ppm of SO_2 for any single source point before emitted to the air.

The two sodium bisulfite production lines collect the materials in a wet scrubber also controlled by pH levels and soda ash scrubbing solution..

The chlorine emissions are collected by a locally installed ducting system and diverted to the scrubber, also used for the sodium bisulfite. The scrubbing liquid is different for this material and the pH does not require monitoring. Instead, it requires liquid flow rates monitoring.

Nitric Acid production is controlled by an impinjet scrubber with urea as the scrubbing liquid.

The Ferric chloride line is controlled by a wet scrubber and mist eliminator.

Additional scrubbers (Venturi and packed bed) are installed at the HCL transfer points, the alum production, the aqua ammonia tank and the stainless steel and glass reactors.

Two baghouses control the dry product storage and transfer, and the bagging operation which include cartridge

filters cleaned by an intermittent pulse jet system. Cartridges are replaced when required. None of the baghouses and hopper dust collectors have a pressure drop differential monitoring system requirement as per this AO.(See also Appendix B.) Dry powder transfer from railcar to railcar is not permitted and must instead be pumped to the hoppers and silos controlled by the above baghouses.

APPLICABLE REGULATIONS: AO dated July 29, 1999 (DAQE-656-99)

SOURCE INSPECTION EVALUATION:

General AO Conditions:

1. This Approval Order (AO) applies to the following company:

Site Office	Corporate Office Location
Thatcher Company	Thatcher Company
1905 Fortune Road	P.O. Box 27407
Salt Lake City, Utah 84127	Salt Lake City, Utah 84127
Phone Number (801) 972-4587	
Fax Number (801) 972-4606	

The equipment listed below in this AO shall be operated at the following location:

PLANT LOCATION:

1905 West Fortune Road (1250 South), Salt Lake City, Utah, Salt Lake County
Universal Transverse Mercator (UTM) Coordinate System:
4,510.3 kilometers Northing; 420.2 kilometers Easting; Zone 12

Status: The facility was located as listed above. In Compliance.

2. Definitions of terms, abbreviations, and references used in this AO conform to those used in the Utah Administrative Code Rule 307 (UAC R307), and Series 40 of the Code of Federal Regulations (40 CFR). These definitions take precedence, unless specifically defined otherwise herein.

3. Thatcher Company (TC) shall install and operate the chemical processing plant and shall conduct its operations of the new scrubbers and paint booth in accordance with the terms and conditions of this AO, which was modified pursuant to Thatcher Company's Notice of Intent submitted to DAQ on November 3, 1998, and additional information submitted to the executive secretary on January 31, 1999, February 3, 1999, and February 11, 1999.

Status: See status of each Condition below for compliance status.

4. At least once per calendar year, all employees who operate equipment (operator) that produces and/or controls emissions to the air shall receive proper training as to their responsibilities in operating that equipment according to all relevant conditions of this AO. The training for each operator shall be for all equipment that operator operates and the required training shall only be for pollution control equipment and/or procedures that have a direct effect on emissions to the ambient air. The equipment shall include all of the equipment listed in Appendix B and any other equipment that affects or produces air emissions that the operator operates. Within 60 days of every time this AO is modified or reissued, those employees who operate equipment that produces and/or controls emissions to the air that is affected by the AO changes shall receive proper training as to their responsibilities in operating equipment according to all relevant conditions of this AO. Within 60 days of a new operator being employed or assigned with the job responsibility to operate any of the equipment that produces and/or controls emissions to the air, the new operator shall receive proper training as to their responsibilities in operating the equipment according to all relevant conditions of this AO. Records

of operator training shall be made available to the executive secretary or executive secretary's representative upon request and the records shall include the two-year period prior to the date of the request. This AO shall be made available to all employees who operate the equipment listed in this AO.

Status: Employee training was conducted on an annual basis for employees who operate the air emissions producing or controlling equipment in all areas except the area called Building #2, where no training had been conducted within a year of the last training (more than a year prior to the inspection). Thatcher Company conducted employee training for the personnel in Building #2 on September 13, 2000, which was within the calendar year. In Compliance.

5. Prior to operating new equipment, not contained on the equipment list in Appendix B attached to this document, the owner/operator shall submit a notification letter to the DAQ. This notification letter shall include an explanation of the process involved, new emission rates occurring from the process, equipment parameters, Standard Operating Procedures (SOPs) for each piece of equipment being added, and include a reference to this AO. DAQ's written response to this notification letter will be added to TC's file and serve as approval, if allowable, for this equipment until the annual equipment list modification occurs. For equipment being removed from Appendix B, a notification letter is also necessary, but will only require an equipment description to be given.

If the current emission limitations are exceeded by this equipment change, TC shall be required to submit a Notice of Intent in accordance with R307-401, UAC.

Status: Thatcher Company provided a record indicating that the annual notification was submitted January 21, 1999, by Fax indicating that no changes had been made to the facility contrary to the list contained in Appendix B of the AO. In Compliance.

6. This AO shall replace the AO dated August 5, 1997, (DAQE-341-97).

Status: The compliance determination for this inspection was based solely on the terms and conditions of the 1999 AO. See specific conditions below for compliance status.

7. The approved installations shall consist of the equipment or equivalent* listed in Appendix B (Thatcher Company Air Quality Equipment) attached to this document. An annual update of Appendix B shall be submitted to the DAQ by January 31st of each year.

* Equivalency shall be determined by the executive secretary.

Status: The facility appeared to contain all the equipment listed in Appendix B, and no modifications appeared to have been made. Thatcher Company provided a record indicating that the annual notification was submitted January 21, 1999, by Fax indicating that no changes had been made to the facility contrary to the list contained in Appendix B of the AO. The DAQ Fax log also corroborates this information. In Compliance.

8. The sulfur dioxide production wet scrubber shall control stack emissions of sulfur dioxide to less than 50 ppm and be sized to handle at least 1600 ACFM for the existing conditions. All exhaust air from the sealed sulfur dioxide production system shall be routed through the sulfur dioxide wet scrubber before being vented to the atmosphere.

Status: Thatcher Company was not required by this condition to show compliance with the limitations listed above. However, the monitoring that was done by portable monitor indicated that the emissions of SO2 were well below 50 ppm. The flow of the exhaust was recorded as being 1670 acfm in an annual check, however, Thatcher Company is not required to perform the annual verification. In Compliance.

9. The executive secretary shall be notified in writing upon start-up of the new scrubbers, as an initial compliance inspection is required. Eighteen months from the date of this AO the executive secretary shall be notified in writing of the status of construction/installation if construction/installation is not completed. At that time, the executive secretary shall require documentation of the continuous construction/installation of the operation and may revoke the AO in accordance with R307-401-11, UAC. If construction is complete and operation has commenced, a notice is not required on the status of the construction/installation.

Status: This inspection was the initial inspection. The equipment was operating prior to the inspection. The last NOV was issued for installation and operation of the new equipment prior to the date of the AO. No further notification is required. In Compliance.

10. Visible emissions from the following emission points shall not exceed the following values:

A. All scrubbers - 15% opacity
B. All baghouses - 10% opacity
C. Paint Booth - 5% opacity
D. All other points - 20% opacity

Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

Status: No visible emissions were observed at the time of the inspection from the operational equipment which were above the limitations listed above. Some visible emissions were noted from a baghouse, but the baghouse was shut down and repaired before a VEO could be taken. No other visible emissions were observed from the operating equipment. In Compliance.

11. The following production or usage limits shall not be exceeded without prior approval in accordance with R307-401, UAC:

A. 20,000 tons per rolling 12-month period of sulfur dioxide, anhydrous (no water)

B. 10,500 tons per rolling 12-month period of liquid chlorine, anhydrous (no water)

C. 10,000 tons per rolling 12-month period of nitric acid, 98% concentration

Compliance with the annual limitations shall be determined on a rolling 12-month total. The record shall be summarized by concentration and weight after the conclusion of each month, giving an annualized estimate on a rolling 12-month basis. Records of production shall be kept for all periods when the plant is in operation. Records of production or usage, including rolling 12-month totals, shall be made available to the executive secretary or executive secretary's representative upon request and the records shall include the two-year period prior to the date of the request. Production or usage shall be determined by sale, repackaging or manufacturing of the products listed above. The records of production shall be kept on a daily basis.

Status:

A. The total production of sulfur dioxide for the 12-month period of September 1999 through August 2000 was 6,956 tons. This was well below the 20,000 ton limitation listed above.

B. The total production of liquid chlorine for the 12-month period of September 1999 through August 2000 was 5,321 tons. This was well below the 10,500 ton limit.

C. The total production of nitric acid for the 12-month period of September 1999 through August 2000 was 4,727 tons, well below the 10,000 ton limit.

The plant production was well within limits according to plant records at the time of the inspection. In Compliance.

12. The sulfur dioxide scrubber stack emissions shall not exceed 50 ppm. The pH of the scrubber liquor shall remain above 6.5 at all times. The pH shall be monitored by two (2) pH probes installed in the scrubbing liquor. The pH probes shall be calibrated against a primary standard at least once every 180 days. The primary standard shall be established by the company and shall be submitted to the executive secretary for approval.

Status: Thatcher Company was not required by this condition to show compliance with the limitations listed above. However, the monitoring that was done by portable monitor indicated that the emissions of SO2 were well below 50 ppm. The Ph of the scrubber liquor is monitored and not allowed to go below 6.5 according to plant operators. The logs of Ph probe calibration were made available upon request. In Compliance.

13. Thatcher Company shall operate and keep records of the equipment listed in Appendix B according to the established SOPs.

Status: The equipment located on site appeared to be operated in accordance with the applicable SOP for each site with the exceptions noted in the conditions above. No further compliance determination could be made based on the SOPs. In Compliance.

14. The owner/operator shall use only natural gas as fuel. If any other fuel is to be used, an AO shall be required in accordance with R307-401, UAC.

Status: Natural gas is the sole source of fuel at the facility for use in the equipment. Some mobile equipment operated on different fuel such as propane, but none of the stationary equipment was operated on any fuel other than natural gas. In Compliance.

15. The paint spray booth shall be equipped with a set of paint arrestor particulate filters or equivalent, to control particulate emissions. All air exiting the booth shall pass through this control system before being vented to the atmosphere (outside building/operation). Equivalency determinations, when requested by the owner/operator, shall be submitted to the executive secretary for approval.

Status: The paint spray booth was equipped with filters. The filters appeared to be adequate to control the overs pray from the paint booth. The filters were all in place and appeared to be free of excess over spray material. In Compliance.

16. The emissions of VOCs and HAPs from the paint booth shall not exceed:

1.27 tons per rolling 12-month period for VOCs
0.22 tons total per rolling 12-month period for all HAPs combined

This value shall not be exceeded without prior approval, in accordance with R307-401, UAC. Compliance with each limitation shall be determined on a rolling 12-month total. Based on the first day of each month, a new 12-month total shall be calculated using data from the previous 12 months.

The paint booth emissions of VOCs and HAPs emitted to the atmosphere shall be determined by maintaining a record of VOC potential and HAP potential contained in materials used each month. The record shall include the following data for each item used:

A. Name of the VOC and HAPs emitting material.

B. The weight and use location (name of plant facility) of the VOC potential and HAP

potential of the material(s) listed in A in pounds.

C. Percent by weight of all VOC potential and HAP potential for each individual material listed in A. The percent by weight of the VOC and HAP potentials can be obtained from the manufacturers' MSDSs. The owner/operator can obtain MSDS data from the manufacturers of the materials and retain the information on-site.

D. Amount and location of materials containing VOCs and HAPs used on a daily basis and summed for every location and for the entire plant each month.

E. Records of consumption of VOCs and HAPs shall be kept for all periods when the plant is in operation. Records of consumption shall be made available to the executive secretary or executive secretary's representative upon request, and the records shall include the two-year period prior to the date of the request.

Status: The emission of VOCs for the 12-month period of September 1999 through August 2000 were 0.85 tons. This was well below the 1.27 ton limitation. There were no HAP containing materials used in the paint booth according to the MSDS sheets. Thatcher Company records appeared to contain all the above listed information. In Compliance.

17. Air monitoring shall be required for scrubber stacks where sulfur dioxide is produced. The monitor shall be calibrated on a quarterly basis, or more frequently if needed to provide reliable readings. Monitors may be used for measuring stack or fugitive sulfur dioxide emissions but will be utilized at least 50% of the time on the scrubber stack for the production facility. Information on reliability and monitor use shall be recorded in appropriate logs. These logs shall be made available to compliance inspectors or submitted to the executive secretary upon their request.

Status: Air monitoring is done on the SO2 stack as required above. The readings were well below the 50 ppm limit and monitoring appeared to be done at least 50% of the time. Times when monitoring was not done were recorded in the log, and typically this lack of use was the result of monitor repair work. The logs were made available at the time of the inspection. In Compliance.

18. All installations and facilities authorized by this AO shall be adequately and properly maintained. Maintenance records shall be maintained while the plant is in operation. All pollution control equipment approved by this approval order shall be installed, maintained, and operated according to standard operating practices that will ensure that the air quality limits set forth in this AO will be met. For each manufacturing process and its emission control equipment TC shall maintain standard operating procedures (SOPs) with logs that provide a record of manufacturing specifications, equipment performance, servicing, repair, replacement or equipment addition. Logs must collect data adequate to show that manufacturing equipment and air emission control devices are adequately maintained and operating within specifications. These include liquid flow-rate measuring devices, pH probes, scrubber solute assay equipment, air flow monitors, and various gas quantitative detectors. These records shall be available to all employees who operate the equipment and shall be made available to compliance inspectors upon their request. Maintenance records shall be made available to the executive secretary or executive secretary's representative upon request, and the records shall include the two-year period prior to the date of the request.

Status: The facilities operated by Thatcher Company appeared to be adequately and properly maintained at the time of the inspection with the exception of the gauges in Building 11 associated with the Nitric Acid Scrubber. Two gauges were not operational at the time of the inspection on the Nitric Acid Scrubber. These gauges were the liquid flow rate gauge and the Magnehelic pressure drop indicator. These gauges were reported to be repaired by 9/13/2000 in information submitted after the inspection. The Harrington Scrubber in Building #3 was not operated as specified in the AO Appendix B. The

scrubber was operating at 6 gpm liquid flow and a pressure drop of 0.25 inches of water column. The specifications for operation of this device according to Appendix B was that it operate at greater than 10 gpm and greater than 0.4 inches water column pressure drop. All other facilities operating at the time of the inspection appeared to be adequately and properly maintained and were operating within the specified parameters at the time of the inspection.

19. The owner/operator shall comply with R307-107, UAC. This rule addresses unavoidable breakdown reporting requirements. Any breakdown lasting longer than two hours shall be reported to the executive secretary within three hours of the breakdown if reasonable, but in no case longer than 18 hours after the beginning of the breakdown. During times other than normal office hours, breakdowns for any period longer than two hours shall be initially reported to the Environmental Health Emergency Response Coordinator. Within seven calendar days of the beginning of any breakdown lasting longer than two hours, a written report shall be submitted to the executive secretary. The owner/operator shall calculate/estimate the excess emissions (amount above AO limits) whenever a breakdown occurs. The total of excess emissions per calendar year shall be reported to the executive secretary as directed by the executive secretary. The owner or operator of an installation suffering an unavoidable breakdown shall assure that emission limitations and visible emission limitations are exceeded for only as short a period of time as reasonable. The owner or operator shall take all reasonable measures which may include but are not limited to the immediate curtailment of production, of operations, or activities at all installations of the source if necessary to limit the total aggregate emissions from the source to be no greater than the aggregate allowable emissions averaged over the periods provided in the source's approval orders or R307.

Status: As of the date of the inspection, there have been no reportable breakdowns resulting in excess emissions from this facility. Plant personnel and management are well aware of the breakdown reporting requirements. In compliance.

TITLE V SOURCE:

This facility is not a Title V applicable facility due to the emissions being less than that required by the Title V operating permit program. No further Title V evaluation is necessary.

EMISSION CAP AND EVALUATION:

There were no enforceable emissions limitations listed in the AO with the exception of the visible emissions limitations listed in Condition 10. There were no visible emissions observed at the time of the inspection which were above the limitations listed in Condition 10. Parametric monitoring for SO2 emissions were listed in Conditions 8 and 12. In these conditions, SO2 emissions are limited by maintaining scrubber air a flow rate of at least 1600 acfm and a scrubber liquid Ph of at least 6.5. These conditions were met according to plant logs. VOC emissions were limited in the paint booth to 1.27 tons/year. The actual VOC emissions from the paint booth were well below that limit. No other emissions cap evaluations could be made.

EMISSIONS INVENTORY:

Thatcher Chemical is not required to submit an annual emissions inventory due to the low level of emissions from this facility. Annual emissions were calculated by the review engineer as follows:

Pollutant	Tons/Year
PM10	0.67
SO2	8.00
NOX	3.08
VOC	1.27
HAP	0.22
NH3	1.00
CL2	2.61

SOURCE INSPECTION SUMMARY EVALUATION:

Thatcher Company was operating at the specified site at the time of the inspection. The approved equipment listed in Appendix B was installed and operational at the time of the inspection, and no additional equipment appeared to be installed a the time. Some of the equipment will be moved to a different building once construction is complete, but the equipment will remain on the same property. All necessary notifications were made and there were no visible emissions observed during the inspection which were above the limitations listed in the AO. Plant production was well within limits according to plant records. The paint spray booth was operated properly and filters were installed and operational. VOC emissions were well within limits and there were no HAP materials in the paint. The equipment was observed operating within the specifications listed in appendix B with one exception which will be noted below. The plant appeared to be adequately and properly maintained at the time of the inspection and appeared to be in compliance with the applicable conditions of the AO with the following exceptions:

Condition 18 of the AO requires that Thatcher Company keep logs of scrubber flow rates and pressure drops. This condition also requires Thatcher Company to operate the equipment in accordance with standards to ensure that the air quality limits set forth in the AO are being met. Two gauges in Building #11 were not operating at the time of the inspection on the Nitric Acid Scrubber. These gauges were the liquid flow rate gauge and the Magnehelic pressure drop indicator. These gauges were reported to be repaired by 9/13/2000 in information submitted after the inspection. The Harrington Scrubber in Building #3 was not operated as specified in the AO Appendix B. The scrubber was operating at 6 gpm liquid flow and a pressure drop of 0.25 inches of water column. The specifications for operation of this device according to Appendix B was that it operate at greater than 10 gpm and greater than 0.4 inches water column pressure drop.

CURRENT RECOMMENDATIONS:

Send Thatcher Company a NOV for failure to operate the pollution control equipment and monitoring devices in accordance with standard operational practices as specified in Condition 18.

HIGH PRIORITY VIOLATOR (HPV):

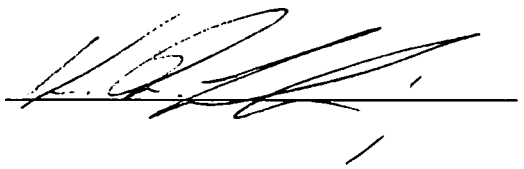
No - These maintenance issues did not likely result in excess emissions.

RECOMMENDATION FOR NEXT INSPECTION:

Check to see that the gauges are properly maintained and that the logs contain all necessary and accurate information.

ATTACHMENTS:

Records submitted by Thatcher Company, VEO, ITM

INSPECTOR'S SIGNATURE: 

STATE OF UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY
VISIBLE EMISSION OBSERVATION FORM

Type of Inspection: Initial (X) Partial Initial ( ) Stack Test ( ) CEM ( ) Annual (X) Followup ( ) Surveillance ( ) Complaint ( )

Source Name: Thatcher Company
Street Address: 1905 Fortune Road
City/County: Salt Lake City/Salt Lake County
Phone: 972-4587
AIRS ID: 035-00119

Facility: Chemical Plant
Equipment:
Control Equipment: Scrubbers, baghouses

Emission Point: Nitric Acid Scrubber

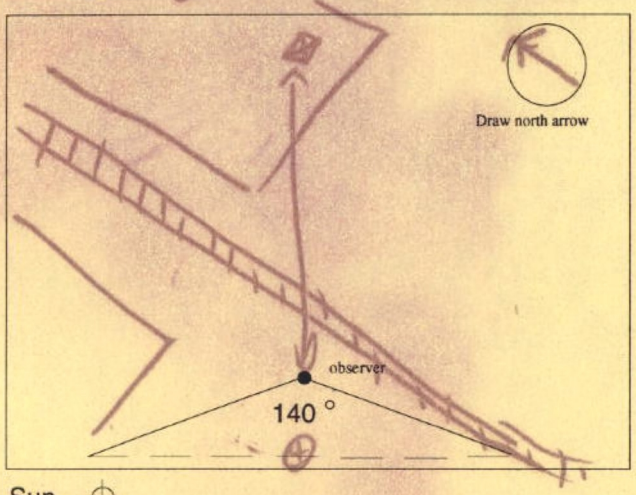
Height of Discharge Relative to Observer: 40 feet
Distance from Observer: 300 feet
Condensed Water Vapor Present? Y / N
Attached ☒ Detached ☐
Length of Condensed Water Vapor Plume: 5 feet
Background: Blue sky
Sky Conditions: Clear ☒ Partly Cloudy ☐ Overcast ☐
Wind Direction: West Wind Speed: mph
Ambient Temp.: 82 °F RH: 35 %

Observation Date: 9/11/2000
Start Time: 2:05 Stop Time: 2:11

min \ sec	0	15	30	45
1	0	→	→	→
2				
3	↓			
4				
5				
6	↓			↓
7				
8				
9				
10				
11				
12				

Average Opacity for Highest Six-Minute Period: 0%

Comments: No visible emissions observed from Nitric acid scrubber. Some visible emissions were observed from the baghouse, but it was shut down before a VEO was taken. No visible emissions observed from Chlorine or Aqueous NH_3 Scrubbers. No visible emissions observed from paint booth. Paint booth maintenance was acceptable.



Sun
Wind
Emission Point with Plume
Observation Point X

Observer's Signature:
Affiliation: State of Utah, Department of Environmental Quality
Division of Air Quality
I Have Received a Copy of These Observations:

SIGNATURE: Dale F Hansen
Printed Name: Dave F Hansen
Title: Technical Director

Distribution: white- file; canary- EPA; pink- inspector; gold- owner/operator